UNIVERSITY of HAWAIʻI
WINDWARD COMMUNITY COLLEGE
Ke Kulanui Kaiāulu o ke Koʻolau

Chem 161

Fall 2026

3 Credits CRN 62021

* This syllabus and/or our Course Schedule is subject to change at any time. I will notify you of any changes via Lamaku announcement. Mahalo!

About Windward Community College

Mission Statement

ʻO keia ka wā kūpono e hoʻonui ai ka ʻike me ka hoʻomaopopo i kō Hawaiʻi mau hoʻoilina waiwai. Aia nō hoʻi ma ke Kulanui Kaiāulu o ke Koʻolau nā papahana hou o nā ʻike ʻake akamai a me nā hana noʻeau. Me ke kuleana koʻikoʻi e hoʻohiki ke Kulanui e kākoʻo a e hoʻokumu i ala e hiki kē kōkua i ka hoʻonui ʻike a nā kānaka maoli. Na mākou nō e hoʻolako, kākoʻo a paipai i nā Koʻolau a kō Oʻahu aʻe me nā hana noʻeau ākea, ka hoʻonaʻauao ʻoihana a me ka hoʻonui ʻike ma ke kaiāulu—hōʻaʻano a e hoʻoulu i nā haumāna i ka poʻokela.

Windward Community College offers innovative programs in the arts and sciences and opportunities to gain knowledge and understanding of Hawaiʻi and its unique heritage. With a special commitment to support the access and educational needs of Native Hawaiians, we provide the Koʻolau region of Oʻahu and beyond with liberal arts, career and lifelong learning in a supportive and challenging environment — inspiring students to excellence.

ʻĀina

Windward Community College is located in the ahupuaʻa of Kāneʻohe and Heʻeʻia in the moku of Koʻolaupoko on the island of Oʻahu. Both ahupuaʻa are directly connected to the moʻo ʻōlelo of Pāpa and Wākea, who are seen as the ancestors of the Hawaiian nation. The campus sits beneath the puʻu of Keahiakahoe, which is also connected to many moʻo ʻōlelo of this ʻāina. Because wind names and rain names are associated with specific ʻāina, the rain name of Kāneʻohe is known as the ʻĀpuakea and the rain name of Heʻeʻia is the Ulumano.

Instructor Information

About Your Instructor

The instructor has degrees in chemical engineering (B.Che, University of Dayton) and chemistry (Ph.D, University of California Berkeley). Research experience includes semiconductor clusters, spectroscopy, and single crystal metal catalysis. Instructor has taught in the University of Hawaii system for 19 years. Teaching philosophy includes teaching the whole student as seeing each student in a holistic manner, and to teach via a coaching or guide on the side approach.

How to Contact Your Instructor

Michael J. Ferguson, Ph.D., Professor, Chemistry

Virtual Office: ZOOM: https://hawaii.zoom.us/j/81417987810

- Office Hours: T,W 9-11:30 AM
- Email: mferguso@hawaii.edu

Response time: I will respond within one business day. I may take longer to respond on weekends or holidays as I may be enjoying my life as a human, but in general I will respond quickly.

Asking Course Questions

Email specific grading questions and/or personal matters, per FERPA, to keep your information protected. Please use Lamakū Email instead of UH Gmail or other email.

While Lamakū has an Instant Message feature, I prefer email. Please feel free to use Instant Message to communicate with your CORS 123 classmates if you like.

Alternate Contact Information

If you are unable to contact the instructor, have questions that your instructor cannot answer, or for any other issues, please contact the Academic Affairs Office:

- Location: Alakaʻi 121
- Phone: (808) 235-7422

Contingency Plan

If there is an outage, weather situation, or family emergency on my end, I will do my best to find a way to communicate an update as soon as possible about my return to the course. Mahalo in advance for your understanding and I hope you will do the same.

Course Format & Structure

This course is offered in a 16-week time frame. Please note that this is not a self-paced course; our course schedule is provided in this syllabus. This course is asynchronous online.

Regular Substantive Interaction (RSI)

Online courses at Windward Community College follow the college's RSI Definition for ensuring quality instruction. You can expect me to communicate with you frequently (and in a timely fashion) about our coursework in the following ways during our 16-week course:

- *Announcements:* There will be a minimum of two announcements per week. One announcement will give the due dates for upcoming assignments. The other will be on a new and interesting topic in the field of science most frequently in chemistry.
- *Assignments:* Assignments will be graded in Mastering Chemistry with immediate feedback.
- *Discussions:* There will be weekly discussions on recent advances in chemistry or science in general.
- *Student Check-Ins:* following exams, I will check in with students who are seeing drops in grades and will also receive congratulations for high test scores.

All course activity due dates are listed in Lamakū on the Calendar. Please check your UH email often and set your Lamakū Notifications (both email and D2L Brightspace Pulse App) to receive course notices, such as grading updates, announcements, and activity reminders. I will keep our Lamakū course Grades as current as possible; grading turnaround times and modes of feedback and evaluation are stated in our course Grades, as well as on each activity.

Participation Verification

Campuses are required by federal regulations to verify the participation of students in their classes. In accordance with Executive Policy 7.209, all students in the University of Hawai'i system are required to establish "participation" to ensure that they are not dropped from their class(es). Effective Fall 2021, students who fail to participate by the late registration period for a class will be administratively dropped from that class. Students may also be dropped from dependent prerequisite and/or corequisite classes if both courses do not establish participation.

Course Information

Catalog Description

Basic principles of inorganic chemistry with an emphasis on problem solving. First course of a two-course sequence designed to meet the one-year General Chemistry requirement for pre-med, science and engineering majors. Topics include chemical calculations, electronic structure, chemical bonding, states of matter and solutions.

Course Content

Stoichiometry, atomic theory, gas laws, thermodynamics, introduction to quantum mechanics, periodic trends, bonding, Lewis Theory, VSEPR, Molecular Orbital Theory.

Academic Prerequisites

- ENG 22 with grade C or better or placement at least ENG 100, and MATH 103 with grade C or better or placement at least MATH 135 or consent
- Keyboard and basic computer skills

Student Learning Outcomes

Students can expect to attain the following outcomes as a result of taking this course:

1. Use the mole concept in solving stoichiometry problems involving solids, liquids, gases and solutions.
2. Balance chemical equations, classify reactions, identify and analyze the role of the chemicals involved in chemical reactions.
3. Predict the behavior of gases while undergoing changes in volume, pressure, temperature and quantity.
4. Manipulate thermochemical equations and calculate the amount of energy involved in chemical reactions.
5. Predict physical and chemical properties of elements based on electronic structure and location in the Periodic Table.
6. Predict physical and chemical properties of compounds based on chemical bonding, geometry and intermolecular interactions.

Course Materials & Technology

Required

Tro, Nivaldo. Chemistry: A Molecular Approach, 6th edition. Published by Pearson (March 31, 2022) © 2023. This text is already in your student account.

- Regular access to a computer with internet (desktop or laptop).
    - Windward offers free laptop and WiFi hotspot check-out to students (first-come, first-served), as well as software and other tech discounts; see Ka Piko Student Tech Support for information.
    - UH Online provides an online learning Readiness Activity and an Orientation to Online Learning that Windward CC students may take to see if online learning is a good fit.

Recommended

- D2L Brightspace Pulse App (free download from app stores)

Lamakū Learning Management System (https://lamaku.hawaii.edu/d2l/home)

Learn about the Hawaiian meaning of the word “lamakū”: Lamakū Pronunciation, Meaning, and Importance.

- UHCC Lamakū Student Resources (how-to videos)
    - Contact UH ITS for 24/7 Lamakū assistance.
- Keeping Accessibility and UDL in Mind
    - If you find any course content that needs remediation and/or updating, please kindly share and I will immediately work to make the content accessible.

- Lamakū courses will appear 5 days before the first day for the academic term and will become inactive (no longer be available to access) 3 weeks after the end of the term. Be sure to save any coursework you may need from Lamakū *during* the term.
- Lamakū automatically logs you out *if it does not detect activity for three hours*. A warning message will appear, notifying you of the lack of activity. Activity is defined as clicking a button in Lamakū, such as "Save Draft" or "Next" (in a test), clicking on a course tab, or taking an action that sends information to the server.

Other Technology

D2L Brightspace, the parent company of Lamakū, recommends users choose the latest versions of Google Chrome, Mozilla Firefox, Microsoft Edge, or Apple Safari as their internet browser.

We recommend that students update their internet browser at the start of each term, search how to allow pop-up windows, adjust their cookies, and clear device history. Also, fully restart your computer and/or device from time-to-time to optimize performance.

Review the privacy/security policies before using the technologies we will be using in this class. Contact me if you would like to discuss the use of alternate options or technologies.

- [Adobe Reader is used to read course files (accessibility statement, privacy policy)

- Google Drive is UH-provided cloud storage (accessibility statement, privacy policy)
- Google Docs is used to create documents (accessibility statement, privacy policy)
- Google Sheets is used to create assignment and reference worksheets (accessibility statement, privacy policy)
- Google Slides is a presentation authoring software provided by UH (accessibility statement, privacy policy)
- YouTube is used for delivering some of the course content (accessibility statement, privacy policy)
- Zoom is used for the Synchronous Sessions and virtual office (accessibility statement, privacy policy)

Course Activities & Grading Policy

Grading Breakdown

Grades will be based on the following weighted categories (subject to change):

Assessment	% of Grade
Test 1-4	10%
Tests total	40%
Homework	35%

Final	25%
Forums	0%
Total	100%

Assessment Descriptions

Tests follow each series of chapters: test 1 for CH 1-4 (Due September 23); test 2 for CH 5-7 (Due October 21); test 3 for CH 8-9 (Due November 12), test 4 for CH 10-11 (Due December 10); comprehensive final (Due December 18). Homework is on Masteringchemistry. Each chapter homework is due at the same time as the tests. Final exam is due December 18.

Forums are optional and are not graded.

Academic Integrity

Windward CC Student Conduct Information

UH System Student Conduct Policy EO 7.208

In general, work submitted by a student must be the student's own, original work. The work of others should be properly acknowledged, explicitly marked and cited, through the use of quotes and/or summarized reference to the original author via the appropriate citation style indicated by your instructor.

In this class, students who commit academic dishonesty, cheating, or plagiarism will have the following consequence(s):

- Students will receive a failing grade for plagiarized assignments.
- All cases of academic dishonesty are referred to the Vice Chancellor for Student Affairs.

Artificial Intelligence (AI)

UH Executive Policy 2.220 Artificial Intelligence

The Windward CC Library AI Essentials Library Guide provides guidance and has helpful resources for both instructors and students.

Student Kuleana

- Please review our Hawai'i-Style Netiquette, which blends the values of ALOHA with approaches to how we should consider treating each other online.
- Windward CC has Grievance Procedures in place, but I encourage us to try to work together first to see if we can work through any troubles. Mahalo!

Academic and Technical Support

Academic Support

- Windward Community College Library
- Library eResources
- Library Research Units (LRUs)
- Ka Piko Tutoring Services: Math Lab, Speech Lab, Writing Lab, ʻŌlelo Hawaiʻi Lab
- Online Learning at Windward Community College
- STAR Balance

Technical Support

- UH ITS Help Desk: email help@hawaii.edu or call (808) 956-8883 (or 1-800-558-2669) for Lamakū and most technology support. Available 24 hours a day, 7 days a week, including holidays.
- Student Tech Support: email winhelp@hawaii.edu, call (808) 235-7437, or stop by in person at Hale Laʻakea 228. Available Monday–Friday from 8:00 am–4:00 pm.
- Lamakū: Click on the Lamakū Help link in the menu bar at the top of the Lamakū homepage to fill out and submit a question and get your answer via email.
- Information Security for Students

College Policies & Support Services

Your instructor may also provide additional resources in your Lamakū course.

Basic Needs

Basic needs include food and housing, childcare, mental health, financial resources, and transportation. Student basic needs security is critical for ensuring strong academic performance, persistence and graduation, and overall student well-being. If you or someone you know is experiencing basic needs insecurity, please see the UH System Basic Needs.

Disabilities Accommodations Statement

Windward Community College's Disability Student Services Office (WCC-DSSO) is committed to providing equal access to qualified students with disabilities.

If you have a physical, sensory, health, cognitive, or mental health disability that could limit your ability to participate fully in this class, you are encouraged to contact the Disability Specialist Counselor, Roy Inouye, to discuss reasonable accommodations that will help you succeed in this class. The Disabilities Counselor can be reached at (808) 235-7448, wccdsso@hawaii.edu, or stop by the office (Hale Kakoʻo 106) for more information.

Financial Aid

If you are receiving financial aid and are contemplating not completing the course it is highly recommended that you contact the Financial Aid Office at (808) 934-2712 or email them at wccfao@hawaii.edu ***BEFORE*** you withdraw to discuss the impact this decision may have on your financial aid eligibility.

LGBTQ+

The University of Hawai'i system and Windward Community College are committed to building an inclusive community that supports and advocates for all students, staff, and faculty. We welcome all members of our campus community to our campuses: transgender, māhū, and people of all gender identities. All members of our campus community deserve a work and educational environment free from harassment or bullying based on their sexual orientation, gender identity, or expression. For more information, see the University of Hawai'i Commission on LGBTQ+ Equality. Windward Community College Commissioner: Scott Sutherland, scottjks@hawaii.edu

Mental Health Counseling

Mental Health and Wellness at Windward Community College provides counseling services and activities on campus to support students' life goals as well as their academic goals. Information about services can be found at WCC Mental Health & Wellness.

Student Conduct Code

Windward Community College follows the University of Hawai'i Code of Student Conduct which defines expected conduct for students and specifies those acts subject to University sanctions. Students should familiarize themselves with the Code of Student Conduct since, upon enrollment at Windward Community College, they have placed themselves under the policies and regulations of the University and its duly constituted bodies. The disciplinary authority is exercised through the Office of the Vice Chancellor for Student Affairs. Copies of the Student Conduct Code are available at the Office of the Vice Chancellor for Student Affairs.

TRiO Program

The Federal TRiO Programs are educational opportunity outreach programs designed to motivate and support students from disadvantaged backgrounds. TRiO includes six outreach and support programs targeted to serve and assist low-income, first-generation college students and students with disabilities in progressing through the academic pipeline from middle school to post-baccalaureate programs. Information about services can be found at Windward CC TRiO.

Title IX - Sex Discrimination And Gender-Based Violence Resources

Windward Community College is committed to providing a learning, working, and living environment that promotes personal integrity, civility, and mutual respect and is free of all forms of sex discrimination and gender-based violence, including sexual assault, sexual harassment, gender-based harassment, domestic violence, dating violence, and stalking.

If you or someone you know is experiencing any of these, WCC has staff and resources to support and assist you. To report an incident of sex discrimination or gender-based violence, as well as receive information and support, please contact one of the following:

Desrae Kahale, UH System Confidential Advocate
Phone: (808) 235-7393
Email: advocate@hawaii.edu
Office: Hale Kākoʻo 101

Desrae Kahale, Mental Health Counselor & Confidential Resource
Phone: (808) 235-7393
Email: dkahale3@hawaii.edu
Office: Hale Kākoʻo 101

Mykie E. Menor Ozoa-Aglugub, J.D., Title IX Coordinator
Phone: (808) 235-7468
Email: mozoa@hawaii.edu
Office: Hale Kākoʻo 109

Karen Cho, Deputy Title IX Coordinator
Phone: (808) 235-7404
Email: kcho@hawaii.edu
Office: Hale ʻAlakaʻi 120

As a member of the University faculty, I am required to immediately report any incident of sex discrimination or gender-based violence to the campus Title IX Coordinator. Although the Title IX Coordinator and I cannot guarantee confidentiality, you will still have options about how your case will be handled. My goal is to make sure you are aware of the range of options available to you and have access to the resources and support you need.

For more information regarding sex discrimination and gender-based violence, refer to the University's Title IX resources, and the Universityʻs Policy, EP 1.204.

UH Alerts

The UH Alert emergency notification system alerts the university community in the event of a natural, health or civil emergency. The information you provide will only be used in the event of an emergency that impacts the health and safety of the UH community or the closure of whole campuses. It will not be shared with others or used for routine UH communications or announcements. To sign up, visit UH Alerts for more information.